

REMARKS

I. Introduction

Claims 15-40 were previously pending and stand rejected. With this paper, claims 23 and 31 are cancelled, and claims 15, 16, 18, 21, 22, 24, 29, 30, 32, 33, 35, and 38-40 are amended. Claims 15, 16, and 33 are the only independent claims.

II. Claim Objections

The Examiner objected to claim 15 for informalities. At line 6, the phrase “unidirectional conduction path” is amended to remove the word “unidirectional.” At lines 6-8, the “conduction path” is restated to be “between the battery and the movable barrier operator,” which is supported by FIG. 1 of the application. The phrase “the plug including a receptacle” is removed from the claims. For all these reasons, we respectfully request withdrawal of the objections to claim 15.

The Examiner objected to claims 16 and 33 for informalities. At line 1, we note the Examiner’s comments regarding claiming “a combination,” but we respectfully state that we do not believe amendment of the pending claims is necessary in view of the rules governing restriction practice. At lines 1-3 the phrase “barrier movement operator” is changed to “movable barrier operator” for consistency. The last 10 lines of claims 16 and 33 are amended for clarity. For all these reasons, we respectfully request withdrawal of the objections to claims 16 and 33.

III. Claim Rejections under 35 U.S.C. 112

The Examiner rejected claims 16-40 under 35 U.S.C. §112, second paragraph, as indefinite for use of the phrase “substantially adjusted.” First, claim 33 is amended to remove this phrase, thereby obviating this rejection for claims 33-40. Second, the application does provide guidance regarding this phrase. The application teaches the following:

If the mains voltage at input 19 fails, the DC voltage from power supply 17 will drop and the voltage between conductors will approach the 24 volts of battery 37. When this happens, battery 37 will act to keep 24V on conductor 33 via positively biased diode 43 and also on conductor 23 via positively biased diode 27. Thus, battery 37 will keep significant D.C. voltage in power supply 17 when it is used to power the barrier movement operator.

Application at page 4, line 18 through page 5, line 2 (published application at paragraph 11). One skilled in the art would understand this teaching to mean that the Examiner's example is one where "a magnitude of the battery DC voltage is conducted along the operator conduction path without being substantially adjusted by any intervening electrical device along the operator conduction path." Moreover, in view of the totality of the application with respect to the application of the teachings therein, what "being substantially adjusted" means in this context. For all these reasons, we respectfully request withdrawal of these rejections.

IV. Claim Rejections under 35 U.S.C. 103

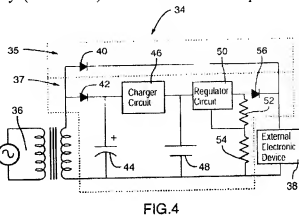
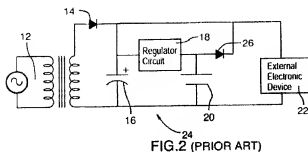
The Examiner rejected claims 15, 16, and 33 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,642,632 to Lucas in view of U.S. Patent No. 5,703,471 to Bullock, U.S. Patent No. 6,923,676 to Perry, and the admitted prior art. The Examiner rejected claims 17-32 and 34-40 under 35 U.S.C. §103(a) as being unpatentable over Lucas in view of Bullock, Perry, U.S. Patent No. 4,401,895 to Petkovsek, and the admitted prior art. These rejections are traversed for the reasons stated below.

The combination of Lucas, Bullock, Perry, and the admitted art fail to teach or suggest the independent claims for at least failing to suggest a "battery backup apparatus comprising . . . a conduction path between the battery and the movable barrier operator, the conduction path including a unidirectional isolation device," "the battery charging circuit configured to receive a DC voltage from the DC power supply located within the movable barrier operator through the plug and an impedance element in parallel with a second unidirectional isolation device disposed in the movable barrier operator to charge the battery," and "the battery backup apparatus further configured to provide a battery backup voltage through the second unidirectional isolation device, the plug, and the unidirectional isolation device" as recited in claim 15 in combination with the other recited elements.

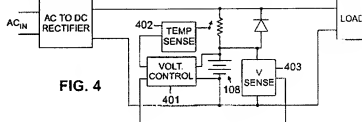
The Examiner's suggested combination of art also fails to teach or suggest a "movable barrier operator comprising . . . an operator conductive path connected between the DC voltage supply and a plug, the conductive path including an operator unidirectional isolation device in parallel with an impedance element" and a "battery backup apparatus comprising . . . a battery

unidirectional isolation device operatively coupled between the battery and a battery conducting path configured to electrically connect to the plug; and a battery charging circuit configured to receive a DC voltage from the DC voltage supply via the plug . . . wherein the battery is connected to provide a battery DC voltage from the first battery terminal to the DC voltage supply via the battery unidirectional isolation device, the plug, and the operator unidirectional isolation device” as recited in claims 16 and 33 in combination with the other recited elements.

Lucas discloses battery transfer circuits where a battery provides power to an external electronic device in the event of loss of power from a power supply. Two of the circuits disclosed by Lucas are included below for the Examiner’s convenience. In both examples, diodes (26 and 56) are used to isolate the battery (20 and 46) from the load when power is provided from a power supply (12 and 36).



Bullock describes another battery charging circuit between a power supply and a load. One of Bullock’s disclosed circuits (Figure 4) is provided below for the Examiner’s convenience. This circuit provides diode and resistor in parallel disposed between a battery 108 and the load.



Regarding the plug, the Examiner cites Perry, which discloses a connector receptacle positioned on a battery pack. Perry teaches “[c]ombodiments of the invention provide a battery pack exchanging system whereby the battery pack is replaceable by a bind mating connection in an electronic device. In combining Perry with Lucas and Bullock, however, Perry would only teach that the battery itself is able to be disconnected with a plug.

The Examiner states in the office action that at “the time of the invention by applicants it would have been obvious to combine the battery backup apparatus disclosed in Lucas and Bullock with the plug disclosed in Perry in order to allow the battery to be replaced. One skilled in the art would recognize that the battery (and other components) in Lucas can be replaced as well, although a person would be required to cut the conductors leading to the battery.” Office action of October 7, 2009 at 9 (emphasis added). We disagree that these references teach that the battery plus other components can be replaced. The references only suggest replacement of the battery or disconnection of the load. None of the references suggest a plug (32) between the battery (37) and a unidirectional isolation device (27) in parallel with a resistive device (29). See for example FIG. 1 of the pending application included below. Moreover, none of the references suggest the arrangement of the power supply (17), load (15 and 13), plug (32) between the battery (37) and a unidirectional isolation device (27) in parallel with a resistive device (29), and battery charge and control (41) as recited in the claims. The only teaching of record to do so lies in the pending application.

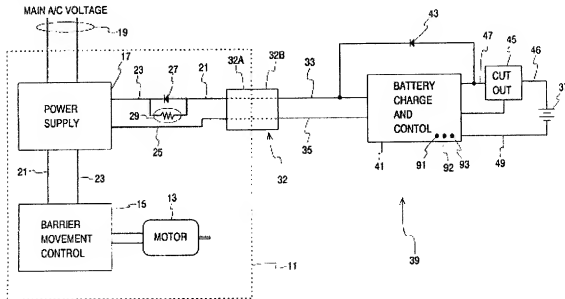


Fig. 1

For all these reasons, we respectfully submit that the cited art fails to support the rejections of claims 15, 16, and 33 under 35 U.S.C. 103. The remaining claims depend directly or indirectly on the independent claims discussed above. While we believe that other arguments are available to highlight the subject matter presented in various of the dependent claims, we also believe that the comments set forth herein regarding the independent claims are sufficiently compelling to warrant present exclusion of such additional points for the sake of brevity and expedited consideration.

V. Conclusion

The Examiner is invited to contact the undersigned if an interview can expedite prosecution. The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,
FITCH, EVEN, TABIN & FLANNERY

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